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The Myxomycetes of the I M U R herbarium, with special reference to brazilian species.

Marie L. Farr

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With the Compliments
of Chaves Batista

THE MYXOMYCETES OF THE IMUR HERBARIUM WITH SPECIAL REFERENCE TO BRAZILIAN SPECIES

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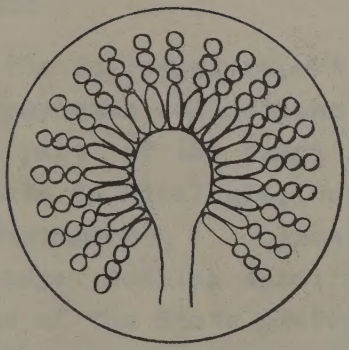

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INTRODUCTION

The following report is a catalogue of the Myxomycetes collections that are at present a part of the fungi herbarium of the Instituto de Micologia, Universidade do Recife, Pernambuco, Brasil. It is also the first paper dealing specifically with the slime molds of the State of Pernambuco. Earlier Brazilian collections, as far as could be ascertained, all originated in other Sta-

tes of this vast country. Since the Brazilian material of the herbarium is represented for the most part by relatively recent collections, and as the author's stay in Brazil was brief and her opportunities for collecting very limited, the list of species presented is short and should by no means be considered as complete. Its intended function is to supplement previously published Brazilian and South American records and to make known the material available for study at the IMUR.

The author was fortunate in having the opportunity to work at the Instituto de Micologia for several months in 1958, and during this period was able to study the entire Myxomycete collection and to make two or three short collecting excursions in wooded areas on the outskirts of Recife, as well as one trip about thirty miles inland to Vitoria de Santo Antão. This territory, of course, represents only one small, and ecologically rather uniform, facet of a country so extensive in area and so varied in ecological aspects as Brazil. Nevertheless, it yielded several new records for Brazil, and even for South America (See table 1), as well

as two previously unknown species which have been described in an earlier publication (1958).

The number of new records is not surprising in view of the fact that previous Brazilian and other South American lists date back mostly prior to 1934. The most complete list of Myxomycete from Brazil seems to be that of Torrend (1915), which includes species enumerated by earlier investigator (Spegazzini, 1881-1889; P. Henning, 1902; Janh, 1902 and 1904; v.Hoehnel, 1907; and Sydow - 1907) from other States such as Rio de Janeiro, São Paulo, Rio Grande do Sul, Santa Catarina, Minas Gerais, Amazonas, Bahia, Maranhão and Pará.

It becomes obvious from the foregoing paragraphs that much intensive and extensive collecting, as well as ecological and seasonal distribution studies need to be carried out, and many additional records will probably be revealed, before a fairly complete knowledge of Brazilian Myxomycetes is approached.

ANALYSIS

At the present time, the IMUR herbarium contains about two hundred and

thirty Myxomycete specimens (including foreign and domestic collections), distributed over thirty-one genera and 110 species. Of these, twenty-one genera and sixtyseven species are represented by Brazilian collections, the remainder consisting of specimens from other countries and contributed by foreign collectors.

Recent Brazilian material was accumulated mostly by A.Chaves Batista and his co-workers, and the author; while the foreign specimens are principally from the herbaria of C. Torrend (Portugal), including fruitings collected by A. & G.Lister (England), Charles Meylan (Switzerland), H. Wingate, and T.H. Macbride (U.S.A.), G.W.Martin, C.G.Lloyd, (U. S.A.) and H.Johannes (Germany).

As shown in table 1, a total of 108 species are known from Brazil at this time, although two or three of these are indicated as questionable records. Of this total, two genera and twenty-four species are reported here for the first time specifically from Brazil; of these, one genus and twelve species are new records for South America, so far as is known. Approximately 33% of all the species reported from Brazil are recognized to

be of cosmopolitan distribution.

Among the species most frequently encountered in Pernambuco appear to be Ceratiomyxa fruticulosa, Lycogala epidendrum, Dictidium cancellatum, Arcyria cinerea, A.denudata, Hemitrichia serpula, H.stipitata, Perichaena corticalis, Stemonitis axifera, S.fusca, Physarella oblonga, Physarum compressum, P.melleum, P. viride, Didymium iridis; all of these are cosmopolitan and common. Alwisia bombarda, Arcyria corymbosa, Physarum bogoriense, P.nucleatum, P.pezizoideum, possibly P. roseum, Stemonitis brasiliensis, and Clastoderma debaryanum are species common or abundant in, or so far recorded only from, tropical regions.

CITATIONS OF IMUR MYXOMYCETE SPECIMENS

Unless otherwise indicated, original determinations were made by the collectors, or their sources are unknown. Information on world distribution of species was derived mostly from Martin (1949) and Lister (1925).

Order CERATIOMYXALES

Family Ceratiomyxaceae

CERATIOMYXA Schroet.in E.&P.Nat.Pfl.1:16.1889

1. C.fruticulosa (Muell.) Macbr. N.Am. Sli-

me-Moulds 18. 1899. Known World distribution: Cosmopolitan.

Beberibe, Recife, on wood, Gayão s.n., 1-Oct., 1951, fide A. C. Batista; Dois Irmãos, Recife, on wood, Gayão s. n., 4. Sept., 1951, fide A. C. Batista; Santo Amaro, Recife, Alves s. n., 5. Mar., 1955, fide A. C. Batista; Dois Irmãos, on decaying stump, Farr 1762, 27. May.1958, this fruiting and Farr 1777 bear a decided resemblance to C. sphaerosperma Boedj. but the spores are oval. Macaxeira forest Recife, on decaying stump. Farr 1777, 30. May. 1958; Sancho woods, Recife,on stump, Farr 1804, 4. June. 1958; woods near Vitoria de Santo Antão; alt. c. 300 ft., on decaying log, Farr 1816, 11. June. 1958.

Germany: Braunschweig, on Pinus, Johannes s.n.

Panamá: Barro Colorado Island, C.Z. Woodson s.n., 11 Aug., 1937, fide G.W. Martin, 4102.

Without data: Torrend s.n. (as "C. arbuscula Berk".) ; Torrend s.n. (as "C.porioides Schroet.").

Order LICEALES

Family Liceaceae

TUBIFERA J.F. Gmel. Syst. Nat. 2: 1472.1791.

1. T.casparyi (Rost.) Macbr. N. Am. Slime-Moulds 157. 1899. Known world distribution: North America, Europe, Japan. U.S.A.: Philadelphia, Pennsylvania, Rex s.n. (Torrend herb. 37); the columellae are distinct.
2. T.ferruginosa (Batsch) J. F. Gmel. Syst. Nat. 2: 1472. 1791. Known world distribution: Cosmopolitan, but not previously recorded from Brazil specifically.
   Macaxeira forest, Recife, on decaying stump, Farr 1791, 30. May, 1958
   England: Lister s.n. (Torrend coll. 36)
   Germany: Braunschweig.
3. T.microsperma (Berk. & Curt.) Martin, Mycologia 39: 461. 1947. Known world distribution: North and South America, Hawaii, tropical Asia, Japan.
   Santo Amaro, Recife, on "Serrapilheira", Alves s.n., 14. June, 1955, (det. M. L. Farr); filed under this species because of the small spores (4-5 u), though the characteristic stalk-like hypothallus is absent. Dois Irmãos, Recife, on bark of decaying log, Farr 1765, 27. May.1958; Macaxeira forest, Recife, on decaying log,

Farr 1796, 30. May, 1958; U.S.A.: Spirit Lake, Iowa, Howard s.n., 15.Aug. 1928, fide G.W.Martin; the typical stipitate hypothallus is lacking. Without data: Torrend 39 (as "T.stipitata Macbr.").

Family Reticulariaceae

ALWISIA Berk. & Br. Jour. Linn. Soc. 14: 86. 1873

1. A.bombarda Berk. & Br. Jour. Linn. Soc. 14: 87. 1873.

Known world distribution: Jamaica, Ceylon, Malay Peninsula, Sumatra.

Beberibe, Recife, on wood, Gayão s.n., 2. Oct., 1951, fide A.C. Batista; without locality, on wood, Gayão s.n.,1.Oct. 1951, fide A.C. Batista; Moreno, Pern., on bark of trees, da Silva s.n., 6. June, 1955,fide A.C.Batista and A.F.Vital.This constitutes but the second known collection of this interesting species in the New World tropics, the first having been made in Jamaica, B.W.I. around the turn of this century (Farr, 1957).

Later Jamaican gatherings post-date the Brazilian ones listed here. This species is reportedly quit common in tropical

areas of the Eastern hemisphere. The Brazilian material collected so far is typical, as is the first Jamaican collection, where the subsequent Jamaican specimens lack the characteristic brush-like pseudocapillitium; both Brazilian and Jamaican sporangia, however exhibit globose vesiculose bodies among the spores. Those bodies are not mentioned in the description of the species and their origin, so far, is unknown.

DICTYDIAETHALIUM Rost. Versuch 5. 1873.

1. D.plumbeum (Schum.)Rost.;Lister,Mycet.157. 1894.Known world distribution:Cosmopolitan
Portugal: Mafra, Torrend s.n., Dec. 1907: immature.
U.S.A.; Iowa, Macbride s.n., fide G.W. Martin.

ENTERIDIUM Ehrend. Jahrd. Gewaechsk. 1: 55. 1819.

1. E.rozeanum (Rost.) Wing., Proc.Acad. phila. 1889: 156. 1889. Known world distribution: North America, Europe, Japan.
U.S.A.: Macbride s.n. (Torrend coll.;as "E. splendens").

LYCOGALA Micheli; Adans. Fam, Pl. 2: 7, 1763.

1. L.conicum Pers. Syn. Fung. 159.1801. Known

world distribution: North America, Europe, Asia. Without data: Torrend 41.

2. L. epidendrum (L.) Fr. Syst. Myc. 3:80. 1829. Known world distribution: Cosmopolitan. Casa Forte, Recife, saprobic on Carica papaya L., Vital s.n., 11. June 1952, fide A.C. Batista & T. Gayão; Macaxeira forest, Recife, on decaying wood, Farr 1793 30 May 1958; specimen consisting of one tiny aethalium; woods near Vitoria de Santo Antão, alt. c. 300 ft., on decaying log in damp shade, Farr 1814, 11. June, 1958. Germany: Aritzsee, East, Prussia, on Picea, Johannes s.n., 29. Sept., 1939. Without data: Torrend 42.

3. ?L. exiguum Morg., Jour. Cinc. Soc. Nat. Hist. 15.134. 1893. Known world distribution: Cosmopolitan, but not previously reported from Brazil specifically. Macaxeira forest, Recife, on decaying log, Farr 1782, 30. May, 1958; woods near Vitoria de Santo Antão, alt. c. 300 ft., on decaying log, Farr 1823, 11. June, 1958; specimen destroyed in transport. The determination of these two collection is uncertain; they could possibly be atypical form of L. conicum.

RETICULARIA Bull. emend. Rost. Versuch 6. 1873.

1. R.lobata Lister, Mycet. 161, 1894. Known world distribution: North America, Europe, Japan.

   England: Lister s.n. (Torrend) coll. 102, as "Liceopsis lobata"); a very poor specimen.

CRIBRARIA Pers. Neues Mag. Bot. 1: 91. 1794.

1. C.argillacea (Pers.) Pers. Neues Mag. Bot. 1: 91. 1794. Known world distribution: North América, Europe, South Africa.

   Germany: Braunschweig, Jahannes s.n. (2 specimens, one labelled "var. oligostata Celak")

   U.S.A.: Tacoma, Washington, Macbride s.n., Oct., 1912.

2. C.aurantiaca Schrad. Nov.Gen.Pl. 5. 1797. Known world distribution: North America, Europe, Asia. Dois Irmãos, Recife, on wood, Gayão s.n., 4. Sept., 1951, fide A. C.Batista (as "C.vulgaris").

3. C.intricata Schrad. Nov. Gen. Pl. 7. 1797. Known world distribution. Cosmopolitan. Dois Irmãos, Recife, on dead leaf in shaded, moist forest, Farr 1753 and Farr

1757. 27. May, 1958, calyculi present in 1753, replaced by ribs in 1757; Macaxeira forest, Recife, on decaying log, Farr 1755, 30. May, 1958, Sancho Woods, Recife, on dead branch, Farr 1810, 4. June. 1958, a poor specimen with the calyculi replaced by ribs; woods near Vitoria de Santo Antão, alt. c. 300 ft., on decaying log Farr 1817, 11. June, 1958; specimen ruined in transport.

4. C. languescens Rex, Proc. Acad. Phila. 1891. 394. 1891. Known world distribution. North America, Europe, Asia, Africa. Dois Irmãos, Recife, on decaying log, Farr 1760, 27. May, 1958; Macaxeira forest, Recife on bark of decaying log, Farr 1774, 30. May, 1958; ?Instituto de Micologia garden, on Thuja bark after 1 month in moist chamber, Farr 1799, 20. Apr., 1958; associated with Perichaena corticalis (Batsch) Rost., which appeared about 2 weeks later; determination of the Chibraria is uncertain.
5. C. microcarpa (Schrad.) Pers. Syn. Fung. 190. 1801. Known world distribution; North America, Europe, Asia. Dois Irmãos, Recife, on decaying log, Farr 1758, 27. May, 1958.
6. C. minutissima Schw. Trans. Am. Phil. Soc.

II.4: 260. 1832. Known world distribution: U.S.A., Europe, Hawaii, Asia. Dois Irmãos, Recife, on bark in moist chamber after 1 month, Farr 1838. 8 July, 1958. Garanhuns, Pern., alt.c.3000 ft., on Eucalyptus bark after 1/2 month in moist chamber, 30.Oct., 1958.

7. C.rubiginosa Fr. Syst. Myc. III. 172.1829. Known world distribution: Europe.
Switzerland: Meylan s.n. (Torrend herb.), Nov., 1909.

8. C.rufa (Rosth) Rost. Monog. 232.1875.Known world distribution: North America, Europe, Japan.
Germany: Braunschweig, Johannes s.n.
U.S.A.: Oregon, Peck s.n.,fide G.W.Martin.

9. C.splendens (Schrad.) Pers. Syn.Fung. 191. 1801. Known world distribution: North America, Europe, Asia. ?Dois Irmãos, Recife, on inside bark of decaying log, Farr 1764, 27. May,1958; this determination is uncertain because the characteristic ribs replacing the calyculus in C. splendens are very weakly developed in this material and are connected by a shiny membrane.

10.C.tenella Schrad.Nov.Gen.Pl.6.1797. Known world distribution. Cosmopolitan. Macaxei-

ra forest. Recife, on decaying log, Farr 1779, 30. May. 1958; the determination of this collection is somewhat tentative, since the latter appears to be in certain respects intermediate with C. intricata Schrad.; there are present in the nets a few free ends, but the sporangia display the small, long-stalked aspect typical of C. tenella.

11. C. violacea Rex, Proc. Acad. Phila. 1891: 393. 1891. Known world distribution: Cosmopolitan, but not previously reported from Brazil specifically. Instituto de Micologia garden, Recife, on bark after 1 month in moist chamber, Farr 1750, 20. May, 1958.

DICTYDIUM Scharad. Nov. Gen. Pl. 11. 1797.

1. D. cancellatum (Batsch) Macbr. N. Am. Slime-Moulds 172. 1899. Known world distribution: Cosmopolitan. Iputinga, Recife, on wood, Gayão s.n., 11. June, 1952, fide A.C. Batista and T. Gayão; Dois Irmãos, Recife, on bark of decaying log in very wet forest, Farr 1770, 27. May, 1958; Macaxeira forest, Recife, on schaded, humid decaying log, Farr 1772, Farr 1789, and Farr 1792; 30. May, 1958; 1789 is an

extensive fruiting on the bark of dead branches; 1792 has extremely long-stalked sporangia; woods near Vitoria de Santo Antão, alt. c. 300 ft., Farr 1824, 11. June, 1958; specimen destroyed in transport.

U.S.A.: Iowa City, Iowa, Martin s.n. 16. Sept., 1936; a beautiful gathering; Crittenden, Kentucky, on wood, Lloyd 14040, May, 1928.

LINDBLADIA Fr. Summa Veg. Scand. 449.1849.

1. L.effusa (Ehrenb.) Rost.; Fuckel, Jahrb. Nass. Ver. Nat., 27-28: 68, 1873, Known world distribution: North America, Europe, Ceylon, Japan.

Germany: Braunschwing, Johannes s.n. (2 specimens, one labelled "Fuligo septica").
U.S.A.: Iowa, Martin s.n.

Order TRICHIALES

Family Trichiaceae

ARCYRIA (Hill) Wiggers, Prim.Fl.Holsat.109. 1780.

1. ?A.carnea G. List., Jour.Bot.59:92.1921. Known world distribution: Europe, Japan. Dois Irmãos, Recife, on termite mound, Gayão s.n. 20.July, 1951, fide A.C. Ba-

tista; capillitium 2-3 u diam., spores 7 u diam., nearly smooth; the material examined seems to fit the description of the species, but, since Martin(1949) lists the latter as doubtful, and the specimen is extremely scanty, its exact identity is questionable.

2. A.cinerea (Bull.) Pers. Syn.Fung.184.1801. Known world distribution: Cosmopolitan. Dois Irmãos, Recife, on palm log, Gayão s.n., 26.June,1951, fide A.C.Batista (as "var.digitata"; digitate form); Beberibe, Recife, on Cocos nucifera L., Gayão s.n., 1.Oct., 1951, fide A.C.Batista; E.S.A.P., Recife, on dead leaves of Phoenix dactylifera L., Gayão s.n., 14.June, 1951, fide A.C.Batista (as "var. digitata"; digitate form); Recife, on bark, Vital s.n., 19.Aut., 1954, fide A.F.Vital and A.C.Batista; Dois Irmãos, Recife, on wood, Ferreira s.n., 19.July, 1951, det. M.L.Farr, Beberibe, Recife, on wood, Gayão s.n., 1. Oct., 1951, det., M.L.Farr.; Dois Irmãos, Recife, on decaying stump, Farr 1763, 27. May, 1958 (digitate form); Macaxeira forest, Recife, on bark of stump, Farr 1780, and 1790, 30. May, 1958 (1780 is digitate form); Sancho woods, Recife, on stump, Farr 1805, 4. June, 1958;

sporangia weathering to a brick-red color! Woods near Vitoria de Santo Antão, alt. c. 300 ft., Farr 1822, 11. June, 1958; collection destroyed in transport.

Germany: Braunschweig, on Pinus sylvestris, Johannes s.n.

U.S.A.: Iowa City, Iowa, Martin s.n., 31. Aug., 1949; Crittenden, Kentucky, on wood, Lloyd 20989 (exs. B-308), May. 1928).

3. A.corymbosa Farr & Martin, Broteria 27(4): 154-156. 1958. Known only from the type, previously cited (1958).

4. A.denudata (L.) Wettst.Verh.Sool.-Bot.Ges. Wien 35: abh. 535. 1886. Known world distribution: Cosmopolitan. Beberibe, Recife, on wood, Gayão s.n.; 1. Oct., 1951, fide A. C.Batista (2 specimens); Dois Irmãos, Recife, on wood, Gayão s.n., 4. Sept., 1951, det. M.L.Farr; and on palm log, Gayão s.n., 27. June, 1951, fide A.C.Batista; and on decaying log, Farr 1755, and 1761, 27.May, 1958; Macaxeira, forest, Recife, on decaying log and stump. Farr 1784. 30.May. 1958; a very robust fructification; same date, Farr 1785, consisting of faded sporangia; same date, Farr 1787, characterized by bright crimson sporangia; woods near Vito-

ria de Santo Antão, alt. c. 300 ft., on bark of log, Farr 1821, 11.June.1958, ruined in transport.

Germany: Waldecker Grund, Braunschweig, Johannes s.n. 9, Oct., 1938;

U.S.A.: Iowa City, Iowa, Martin s.n., Aug. 1948; Crittenden, Kentucky, on wood, Lloyd 50348, May, 1928.

5. A. incarnata (Pers.) Pers. Obs. Myc. 1:58. 1796. Known world distribution: Cosmopolitan.

U.S.A.: Crittenden, Kentucky, on wood, Lloyd 50353, May, 1928.

6. A. insignis Kalchbr. & Cke.; Kalchbr. Grevillea 10: 143. 1882. Known world distribution: Cosmopolitan. Dois Irmãos, Recife, on Solanum melongena, Gayão s.n., 6. Aug., 1951, fide A.C. Batista (as "var. major"); Beberibe, Recife, on Cocos nucifera L., Gayão s.n., 1. Oct., 1951, fide A.C. Batista.

7. A. nutans (Bull.) Grev. Fl. Edin. 455, 1824, Known world distribution: Cosmopolitan.

Germany: Braunschweig, on Pinus, Johannes s.n.

U.S.A.: Kentucky, on wood, Lloyd 50349.

8. A. oerstedtii Rost. Monog. 278. 1875. Known

world distribution. North America, Europe, Southern Asia, Japan, South Africa, Australia. Beberibe, Recife, on wood, Lacerda s.n., 2. Mar., 1955, det. M.L.Farr; Santo Amaro,Recife, on bark, Alves s.n., 5.Mar., 1955, det. M.L.Farr; Iputinga, Recife, on wood, R.Batista s.n., 20. May, 1955, det. M.L.Farr.

9. A.versicolor Phill. Grevillea 5.115.1877. Known world distribution: U.S.A., Europe, Japan.
U.S.A.: Huntington Lake, Fresno Co., California, Gibbons s.n.

HEMITRICHIA Rost. Versuch 14.1873.

1. H.serpula (Scop.) Rost.; Lister,Mycet.179. 1894. Known world distribution: Cosmopolitan. E. S. A. P., Recife, on Musa sp., Gayão s.n., 4. Sept., 1951 (2 specimens, 1 as H.karstenii); Dois Irmãos, Recife, on wood, Gayão s.n., 6.Aug.,1951, fide A. C.Batista; Dois Irmãos, Recife, on rotten wood, Couceiro s.n., 7.Mar., 1948, fide A. C.Batista; Recife,on cocoa-tree, Lima s.n., 17.Aug.1954,fide A.C.Batista;S.Bartolomeu, Jaboatão,Pern.,on wood,Batista s.n., 18. May,1946, det. M.L.Farr. U.S.A.: Iowa City, Iowa, Martin s.n. 24. Sept., 1950.

Without data: Torrend s.n. and Torrend 56 (as Perichaena chrysosperma List.).

2. H.stipata (Schw.) Macbr. N. Am. Slime-Moulds en. 2. 262. 1922. Known World distribution: North America, Europe, Asia, Oceanica.

U.S.A.: Iowa, Macbride s. n. (Torrend herb.); a very poor specimen.

3. H.stipitata (Mass.) Macbr. N. Am. Slime-Moulds 207. 1899. Known world distribution: Cosmopolitan. Beberibe, Recife, on wood, Gayão s.n., 1. Oct., 1951, det. M. L.Farr; (3 specimens); Dois Irmãos, Recife, Gayão s.n., 4. Sept., 1951, det. M.L. Farr; and on decaying log, Farr 1759, 27. May, 1958, Macaxeira forest, Recife, on decaying log, Farr 1797, 30. May, 1958; woods near Vitória de Santo Antão, alt. c. 300 ft., Farr 1828, 11, June, 1958; ruined in transport.

U.S.A.: White Pine Hollow, Iowa, Daniels s.n.,24. June, 1939. Oxford, Ohio, on wood, Lloyd 22178, (as H.clavata).

4. H.vesparium (Vatsch) Macbr. N. Am. Slime-Moulds 203. 1899. Known world distribution: Cosmopolitan.

Germany: Braunschweig, Johannes s. n., 2.

specimens, one on Picea.

U.S.A.: Crittenden, Kentucky, on wood, Lloyd 50324, 1910; Oxford, Ohio, on wood, Lloyd 50323, May, 1928. Without data: Torrend s.n.; a good specimen.

OLIGONEMA Rost. Monog. 291. 1875.

1. O.flavidum (Peck) Peck, Ann. Rep. N. Y. State Mus. 31: 42. 1879. Known world distribution: North America, Europe, North Africa.

Portugal: S.Fiel, Torrend 98; very poor.

PERICHAENA Fries, Symb. Cast. 11. 1817.

1. P.chrysosperma (Currey) List.,Mycet. 196 - 1894. Known world distribution: Cosmopolitan. Boa Vista, Recife, on rotting log, Farr 1847, 17. Aug., 1958.

2. P.corticalis (Batsch) Rost. Mong. 293. 1875. Known world distribution: Cosmopolitan, but not previously reported from Brazil specifically. Instituto de Micologia garden, Recife, on Thuja bark in moist chamber after 1 1/2 months, Farr 1799, May, 1958, and on bark of living Polyscias guilfoylei Bail. in shade, Farr 1830, 25. June, 1958; spores of Farr 1799 measure 15 u diam.; Boa Vista, Recife, on rotting log, Farr 1845, 17 Aug., 1958; Ga-

ranhuns, Pern., alt. c. 3000 ft., on cactus stem, Farr 1859, 30. Oct., 1958, slightly immature.

Ireland: Torrend 52.

3. P.depressa Lib., Pl. Crypt. 378. 1837. Known world distribution: Cosmopolitan. E. S.A.P., Recife, on Manihot utilissima Pohl, Gayão s.n., det. M.L.Farr: the spores of this material measure up to,and mostly less than, 11 u diam., and hence it is referred to this species;woods near Vitoria de Santo Antão, alt. c.3000 ft.,on bark of decaying log, Farr 1818, 11. June. 1958.

Ireland: Torrend 51

Without data: Torrend 57

TRICHIA Hall. Hist. Stirp. Helv. 3:114. 1768.

1. T.botrytis (J.F. Gmel.) Pers. Neues Mag. Bot. 1: 89. 1794. Known world distribution: North America, Europe, Ceylon, Australia, New Zealand.

Germany: Ballberg, Thueringen, Johannes s. n., 8. Nov., 1940 (as "var. munda").

Ireland: Torrend 96. Only stipes remain of this specimen.

2. T.contorta (Ditm.) Rost. Monog. 259. 1875. Known world distribution: North America,

Europe.

England: Lister (Torrend Herb. 92).

3. T. favoginea (Batsch) Pers. Neues Mag. Bot. 1: 90. 1794. Known world distribution: ?Cosmopolitan.

Germany: Braunschweig, on Fagus, Johannes s.n. (as "T. affinis"); Braunschweig, Johannes s.n.; and on Picea, Johannes s.n. (as "T. persimilis").

U.S.A. crittenden, Kentucky, Lloyd 50248, 1910. Locality uncertain: Torrend 86 and 87.

4. T. varia (Pers.) Pers. Neues Mag. Bot. 1: 90. 1794. Known world distribution: Cosmopolitan.

Germany: Braunschweig, on Pinus, Johannes s.n., Thueringen, Johannes s.n. (as T. verrucosa).

Ireland: Torrend 91: mostly immature.

Order STEMONITALES

Family Echinosteliaceae

ECHINOSTELIUM De Bary; Rost. Versuch 7. 1873.

1. E. minutum De Bary; Rost. Monog. 215. 1874. Known world distribution: North America, Europe. Garanhuns, Pern., Alt. c. 3000 ft., on bark in moist chamber after 2 weeks,

Farr 1857, 30. Oct., 1958; slightly immature.

U.S.A.: Cook Co., Minnesota, on white pine in moist chamber, Martin 1414, 28. Aug., 1934; moldy.

Family Stemonitaceae

CIASTODERMA Blytt, Bot. Zeit. 38: 343. 1880

1. C.debaryanum Blytt, Bot. Zeit. 38. 343. 1880. Known world distribution: North and South America, Europe, Southern Asia, Australia. Macaxeira forest, Recife, on decaying log, Farr 1781, and on bark of dead twig, Farr 1788, 30. May, 1958; woods near Vitoria de Santo Antão, alt. c. 300 ft., Farr 1827, 11. June, 1958; ruined in transport; Instituto de Micologia garden, Recife, on ?Poinciana bark in moist chamber, Farr 1837, 4. July, 1958; first observed as jellow plasmodium associated with the red plasmodium of Physarum roseum (Farr 1836); both fruited together on glass and filter paper in the same moist chamber as Stemonitis nigrescens (Farr 1798), but later.

Panamá: Barro Colorado Island, Canal Zone, Martin 4087, October 1937.

Locality uncertain: Torrend s.n., Feb., 1909; only stalks left.

COMATRICHA Preuss. Linnaea, 24:140. 1851.

1. C.longa Peck. Ann. Rep. N.Y.State Mus. 43: 70. 1890. Known world distribution: North and South America, Central, Europe, South Africa, Southern & Eastern Asia. Dois Irmãos, Recife, on dry leaves, Soares s.n., 16. Jan., 1955 (as Stemonitis fusca). Without data: Torrend 35.
2. C.nigra (Pers.)Schroet. Krypt.-Fl.Schles - 3: 118. 1885. Known world distribution: Cosmopolitan. E.S.A.P., Recife, on Solanum melogena, Batista s.n., 4.Aug.,1951.
3. C.pulchella (C.Bab.) Rost. Monog. Append. 27. 1876. Known world distribution: North & South America, Europe, Africa, Southern Asia, Japan. Macaxeira forest, Recife, on decaying bark, Farr 1786 and 1795, 30. May 1958; 1786 ruined in storage; woods near Vitoria de Santo Antão, Alt. c. 300 ft., Farr 1826, 11. June, 1958;ruined in transport.
4. C.typhoides (Bull.) Rost.; Lister, Mycet. 120. 1894. Known world distribution. Cosmopolitan. Dois Irmãos, Recife, on bark of

tree, Gayão s.n., 1. Oct., 1951, det. M. L. Farr; Instituto de Micologia garden, Recife, on bark of palm tree, in moist chamber after 1 month, from a dirty - brown plasmodium, Farr 1880, 20.Apr.,1958, ruined in storage; woods near Vitoria de Santo Antão, alt. c. 300 ft., Farr 1825, 11 June, 1958; ruined in transport.
U.S.A.: Shelby Co., Iowa Shimek s.n., 18. Sept., 1921, fide G.W.Martin; Crittenden, Kentucky, on wood, Lloyd 50330.

DIACHEA Fries, Syst. Orbis Veg. 143. 1825.

1. D.bulbillosa (Berk. & Br.) Lister, Jour. Bot. 36: 165. 1895. Known world distribution: North America, Puerto Rico, Asia.
U.S.A.: Ledges State Park, Iowa, Shimek s.n., July, 1928, fide G.W.Martin.

LAMPRODERMA Rost. Versuch 7. 1873.

1. L.arcyrionema Rost. Monog. 208. 1874. Known world distribution:Cosmopolitan. Dois Irmãos, Recife, on decaying log, Farr 1771, 28. May, 1958; woods near Vitoria de Santo Antão, alt. c. 300 ft.,on dead wood, Farr 1815, 11. June, 1958; sporangia blown out; Boa Vista, Recife, on rotting log, Farr 1849, 17. Aug., 1958; in poor condi-

tion.

2. L.atrosporum Meylan in Bull. Soc. Vaud. Sc. Nat. 46: 51. 1910. Known world distribution: Europe.
   Switzerland: Meylan s.n. (Torrend herb. 115a), June, 1909; very scanty.
3. L.sauteri Rost. Monog. 205. 1874. Known world distribution; North America, Europe. Dois Irmãos, Recife, on dry leaves, da Silva s.n., 16. May, 1955, fide A.C. Batista & A.F. Vital; completely molded.
   U.S.A.: Tuolumne Co.,California on Abies concolor Lindl. & Gord.,Ray s.n.;McGregor, Iowa, Shimek s.n., 13. Oct., 1939, fide R. Bandoni (as L.arcyrionema).
4. L.scintillans (Berk. & Br.) Morgan, Jour. Cinc. Soc. Nat. Hist. 16: 131. 1894. Known world distribution: North & South America, Asia. Macaxeira forest, Recife, on dead leaf, Farr 1794, 30. May, 1958; spores 6,5 u diam.; Boa Vista, Recife, on dead leaf, Farr 1850, 24. Aug., 1958.

STEMONITIS Gled. Meth. Fung. 140. 1753.

1. S.axifera (Bull.) Macbr. N. Am. Slime-Moulds 120. 1899. Known world distribution: Cosmopolitan.Pernambuco, Pickel s.n.

(Torrend herb. 131), July, 1926 (as S. fusca); without locality, on rotten wood, Vital s.n., 3. Jan., 1948, det. M.L. Farr, Dois Irmãos, Recife, on decaying bark in very wet forest, Farr 1767, 28. May, 1958, Germany: Braunschweig, ?Johannes s.n. (as S.fusca).

U.S.A.: White Pine Hollow, Iowa, Martin s.n., 7. Oct., 1948; Iowa City, Iowa, Brasfield s.n., 8. Oct., 1937(as S.splendens); Crittenden, Kentucky, on wood, Lloyd 50360, May, 1928 (as S.splendens). Without data: Torrend 33. (as S.splendens).

2. S.brasiliensis Farr & Martin, Broteria 27 (4): 156-158. 1958. Known only from the type, previously cited (1958).

3. S.flavogenita Jahn, Verh. Bot. Ver. Brand. 45: 165. 1904. Known world distribution: North America, Europe, Asia. ? Casa Forte, Recife, on Gramineae, Ramos s.n., 13.Nov., 1950, fide J.N. Silva & T. Gayão (as S. confluens); determination uncertain; Tapera, Vitoria, Pern., on an old stick, Pickel s.n., July, 1926 (as S.fusca); spores 7-9 u, capillitium & columella with membranous expansions.

England: Macbride s.n. (Torrend herb. 138;

as S.herbatica); spores 6-8 u, nearly smooth; capillitium with many membranous expansions; surface net delicate, spiny.

4. S.fusca Roth, Mag. Bot. Rosmer & Usteri 1: 26. 1787. Known world distribution: Cosmopolitan. Olinda, Recife, on dead wood, Nascimento s.n., 25.May, 1958; det. M.L. Farr; Dois Irmãos, Recife, on bark, Soares s.n., 16. Jan., 1955, fide A.C. Batista; Casa Forte, Recife, on wood, Vital s.n. 27. June, 1951, fide A.C.Batista; Dois Irmãos, Recife, on decaying bark, Farr 1768, 28. May, 1958; Macaxeira forest, Recife, on fairly exposed bark of trailside stump, Farr 1778, 30. May, 1958; woods near Vitoria de Santo Antão, alt. c. 300 ft., on decaying log Farr 1813, 11. June, 1958.
Germany: Braunschweig, on Picea, Johannes s.n.
U.S.A.: Johnson Co., Iowa, Harrington s.n., July, 1930, fide R.Petrak.

5. S.nigrescens Rex, Proc.Acad. Phila, 1891: 392. 1891. Known world distribution: North America, Wales. Santo Amaro, Recife, on tree bark, Batista s.n., 26. May, 1955 (as "S. fusca Roth var. nigrescens"); the surface nets of this interesting fructification

resemble those of S. brasiliensis Farr & Martin, but because of the smaller (8-9 u diam.) and lighter-colored spores, the specimen is retained here. Instituto de Micologia garden, Recife, on decaying ?Poinciana bark and filter paper in moist Chamber after 1 month, Farr 1798, 20. April - 1958; developed from a chocolate - brown plasmodium; spores 8-9 u, spiny.

6. S. smithii Macbr. Bull. Nat. Hist. Univ. Iowa 2: 381. 1893. Known world distribution: North America, Europe, Asia, New Zealand. Caruarú, Pern., on wood, Batista s.n., 12. July, 1950, det. M. L. Farr; a moldy specimen with an extremely delicate surface net and spores 4-6 u diam.

7. S. splendens Rost. Monog. 195. 1874. Known world distribution: Cosmopolitan. Casa Amarela, Recife, on wood, Vital s.n., 6 May. 1955, fide A.C. Batista & A.F. Vital; Recife, on wood, Soares s.n., 20. Jan. 1956, fide A.F. Vital & A.C. Batista

Order PHYSARALES

Family Physaraceae

BADHAMIA Berk. Trans. Linn. Soc. 21: 153. 1853.

1. B. affinis Rost. Monog. 143. 1874. Known

world distribution: Cosmopolitan, but not previously reported from Brazil specifically. Boa Vista, Recife, on living Polycias gullfoylei Bail. bark, Farr 1829, 25, June, 1958; mostly plasmodiocarpus; Instituto de Micologia garden, Recife, on living Polyscias guilfoylei Bail. bark, Farr 1831 & 1831a, 25. June, 1958; fide G.W. Martin; & Farr 1843, July, 1958.

2. B.curtisii (Berk.) Rost. Monog. append. 5. 1876. Known world distribution: North America, Europe, Japan.
   U.S.A.: Iowa City, Iowa Shimek s.n., fide G.W.Martin.
3. B.foliicola Lister, Jour.Bot.35.209. 1897. Known world distribution: North America, Europe, Australia.
   U.S.A.: Berkeley, California, on living weeds and fallen pine needles, Copeland & Miller s.n.
4. B.panicea (Fr.) Rost.; Fuckel, Jahrb. Nass. Ver. Nat. 27-28: 71. 1873. Known world distribution: North & South America, Europe.
   Portugal: Lumiar, Torrend 264, Jan. 1908.
5. B.populina A. & G. Lister, Jour. Bot. 42: 129. 1904. Known world distribution: North

America, Europe.
England: Leytonstone, G. Lister s.n. (Torrend herb. 258).

CRATERIUM Trent. in Roth, Catalecta Bot. 1:224. 1797.

1. C. concinnum Rex, Proc. Acad. Phila. 1893: 370. 1893. Known world distribution: North America, Jamaica, Japan. Without data: Torrend s.n.
2. C. leucocephalum (Pers.) Ditm. in Sturm, Deuts. Fl. Pilze 1: 21. 1813. Known world distribution: Cosmopolitan. Dois Irmãos, Recife, on Manihot utilissima Pohl, Gayão s.n., 4. Sept., 1951, det. M.L. Farr; badly parasitized. Sancho woods, Recife, on dead leaf, Farr 1802, 4. June, 1958; depauperate. U.S.A.: W. Okoboji, Iowa, Martin s. n., 3. July, 1930.

FULIGO Hall. Hist. Stirp. Helv. 3:110. 1768.

1. F. cinerea (Schw.) Morgan, Jour. Cinc. Soc. Nat. Hist. 19: 33. 1896. Known world distribution: Cosmopolitan, but not previously reported from Brazil specifically. Dois Irmãos, Recife, on Carica papaya L., Gayão s.n., 19. July, 1951, fide A.C. Batista;

Jardim 13 de Maio, Recife, on bracts of E. laeis guinensis Jacq., Batista s.n., 27 - Aug., 1954, det. M.L.Farr (2 collections). England: Lister s.n.(Torrend herb.),as "F. ellipsospora".

2. F.septica (L.) Weber; Wiggers, Prim. Fl. Holsat. 112. 1780. Known world distribution: Cosmopolitan. Casa Forte, Recife, on dead leaves, Vital s.n., 3. July, 1953,fide A.C.Batista; a huge fructification? Instituto de Micologia garden, Recife, on Mangifera indica L., de Aquino s.n., 26. Mar., 1957, fide A.Vital & A.C. Batista; Santo Amaro, Recife, on tree bark, Alves s.n., 23. Dec., 1955; fide A.C. Batista; (as "var. rufa"); Instituto de Micologia garden, on decaying log Farr 1751,20.Apr., 1958.
U.S.A.: Iowa City, Iowa, Martin s.n. 25 - Sept. 1935. Without data: Torrend s.n.

LEOCARPUS Link, Ges. Nat.Freunde Berlin Mag. 3: 25. 1809.

1. L.fragilis (Dicks.) Rost. Monog.132.1874. Known world distribution: Cosmopolitan. Germany: Braunschweig, on young oak, Johannes s.n.

Portugal: Val de Rosal, Torrend s.n.,Oct., 1907; 2 collections.

PHYSARELLA Peck, Bull.Torrey Club 9: 61. 1882

1. P.oblonga (Berk. & Curt.) Morg., Jour.Cinc. Soc. Nat.Hist. 19:7. 1896. Known world distribution: Cosmopolitan. E.S.A.P., Recife, on Musa sp., Gayão s.n., Aug., 1951, fide A.C.Batista (2 collections, one as "P.lusitanica"); and on Manihot utilissima Pohl, 4. Sept., 1951, fide A.C.Batista (2 specimens); Dois Irmãos, Recife, on tree bark, Gayão s.n., 4. Sept. 1951, fide A.C.Batista; this collection consists of 1 very moldy sporangium, and on Carica papaya L., Gayão s.n., fide A.C.Batista; extremely poor; Beberibe, Recife, on Cocos nucifera L., Gayão s.n., 1. Oct., 1951, fide A.C.Batista (2 specimens); Tapera,Vitória, Pern., on wood, da Silva s.n., 25. Sept., 1954, det. M.L.Farr; Instituto de Micologia garden, Recife, on bark of living Polyscias guilfoylei Bail. in shade, Farr 1833, 25. June, 1958; associated with Badhamia affinis Rost. (Farr 1831). Panamá: Barro Colorado Island, C.Z. Martin

& Welden 8717, 20. Aug., 1952, Fide G. W. Martin; a whitish specimen in very poor condition.
U.S.A.: Crittenden, Kentucky, on wood, Lloyd 50309, June, 1928.

PHYSARUM Pers. Neues Mag. Bot. 1. 88. 1794.

1. P.alpinum (A. & G. Lister) G. Lister, Jour. Bot. 48: 73. 1910. Known world distribution: North America, Europe.
Switzerland: Jura, Meylan s.n. (Torrend herb. 200A), June, 1909, faded.
2. P.auriscalpium Cke., Ann. Lyc. N.Y. 11: 384. 1877. Known world distribution: North America, Europe, Africa, Malaya. Boa Vista, Recife, on rotting log, Farr 1844, 17. Aug., 1958; rapidly fading.
3. P.bogoriense Racib. Hedwigia 37: 52. 18F 1898. Known world distribution: Cosmopolitan. Beberibe, Recife, on Anacardium occidentale L., Gayão s.n., 1.Oct., 1951, det. M.L.Farr; Sancho woods, Recife, on dead leaf, Farr 1811, 4. June, 1958.
?Portugal: Pedronço, Torrend 200.
4. P.cinereum (Batsch) Pers. Neues Mag. Bot. 1: 89. 1794. Known world distribution: Cosmopolitan. E.S.A.P., Recife, on Carica pa-

paya L., Gayão s.n., 10. July, 1951, fide T.Gayão & A.C.Batista (as P. vernum).
U.S.A.: Iowa City, Iowa, Martin s.n.

5. P.compressum Alb. & Schw. Consp.Fug. 97. 1805. Known world distribution: Cosmopolitan. Parque 13 de Maio, Recife,on Elaeis guinensis Jacq., Batista s.n., 28. July, 1954, fide A.C.Batista & A.F. Vital (2 specimens) & 12. Sept., 1954, fide A.C. Batista; Beberibe, Recife, on Cocos nucifera L., Gayão s.n., 2. Oct., 1951, fide A. C.Batista; Dois Irmãos, Recife, on Carica papaya L., Gayão s.n., 19. and 20. July, 1951, det. M.L.Farr; and on Mauritia vinifera Mart., Gayão s.n.,18.July,1951,fide A.C.Batista; Instituto de Micologia garden,Recife,on decaying log,Farr 1752,Apr., 1958; Sancho woods, Recife, on dead palm leaf, Farr 1803, 4. June, 1958.

6. P.contextum (Pers.) Pers. Syn. Fug. 168., 1801. Known world distribution: North America, Europe, India, Japan.
Austria: Bresadola s.n. (Torrend 203).
England: Lister s.n. (Torrend herb.203); these 2 collections were in the same box, and practically unidentifiable.
U.S.A.: Crittenden, Kentucky, on wood,

Lloyd 58879 (?leg. Muenscher, May, 1928).

7. P.didermoides (Pers.) Rost. Monog. 97. 1874. Known world distribution: Cosmopolitan. Macaxeira forest, Recife, on Neca maderiana Standl., Soares s.n.,28.June.1955, det. M.L.Farr; Casa Forte, Recife,on palm tree, Ramos s.n., 3. July, 1951, det. M.L. Farr; I.P.A., Recife, on Persea gratissima Gaertn., Gayão s.n., 17. July, 1951, det. M.L. Farr; I.P.A., Recife, on Carica papaya L., Gayão s.n., 7.July, 1951, det. M.L.Farr, 2 collections.

8. P.gyrosum Rost. Monog. 111. 1874. Known world distribution: Cosmopolitan. Without data: Torrend 16.

9. P.leucophaeum Fr., Symb. Gast. 24. 1818. Known world distribution: North America, Europe, New Zealand. Boa Vista,Recife, on stem of living Polyscias guilfoylei Bail., Farr 1812, 6. June, 1958; Instituto de Micologia garden, Recife, on stem of living Polyscias guilfoylei Bail., Farr 1835, 25. June, 1958; the stalks in this fruiting are either slender and single, or thick and fused; and Farr 1842, July, 1958; Boa Vista, Recife, on decaying palm fronds, Farr 1839, 14. July, 1958.

10. P. melleum (Berk. & Br.) Mass., Monog. 278. 1892. Known world distribution: Cosmopolitan. E. S. A. P., Recife, on Musa sp., Gayão s.n., 4. Aug. 1951, fide A.C. Batista; and 4. Sept., 1951, fide A.C. Batista. Dois Irmãos, Recife, on Cocos nucifera L., Gayão s.n., 1. Oct., 1951, fide A.C. Batista; Sancho woods, Recife, on dead leaf, Farr 1808, 4. June, 1958; the characteristic honey color is not developed in this moldy specimen; the sporangial wall is membranous, with white lime granules; the stalks and columella are typical. Woods near Vitoria de Santo Antão, alt. c. 300 ft., on dead leaf, Farr 1820, 11. june, 1958.

11. P. nucleatum Rex, Proc. Acad. Phila. 1891. 389 - 1891. Known world distribution North America, Europe, South Africa, Japan. Dois Irmãos, Recife, on twigs, Gayão s.n., 4. Sept., 1951, fide A.C. Batista; very poor material; and on bark of decaying log, Farr 1756, 27. May, 1958.

12. P. nutans Pers. Ann. Bot. Usteri 15: 6. 1795. Known world distribution: Cosmopolitan. Dois Irmãos, Recife, on Carica papaya L., Gayão s.n., 17. July, 1951, fide A.C. Batista (as "var. leucophaeum"); Maca-

xeira forest, Recife, on decaying twig, Farr 1776, 30. May, 1958.

13. P.penetrale Rex, Proc. Acad. Phila. 1891: 389. 1891. Known world distribution: North America, Europe, Asia, Africa.
Portugal: Pinhal del Rei, Torrend 248, Nov., 1907; unfortunately, only stalks remain of what was apparently a fine collection of this beautiful species.

14. P.polycephalum Schw. Schr. Natur. Ges. Leipzig 1: 63. 1822. Known world distribution: Cosmopolitan. Dois Irmãos, Recife, on Carica papaya L., Gayão s. n., 19. July, 1951, fide A.C.Batista.

15. P.psittacinum Ditm, in Sturm, Deuts. Fl. Pilze 1: 125. 1817. Known world distribution: North America, Europe, Japan.
Ireland: Torrend 236, Sept. 1906; in very poor condition.

16. P.pusillum (Berk. & Curt. G. Lister in Lister, Mycet. ed 2.64.1911. Known world distribution: Cosmopolitan. Beberibe, Recife, on Cocos nucifera L., Gayão s.n., 2. Oct., 1951, fide A.C.Batista, very poor material, Dois Irmãos, Recife, on bark of dead twig, Farr 1754, 27. May, 1958; Boa Vista, Recife, on decaying palm fronds, Farr 1840,

14. July, 1958, and on rotting log, Farr 1846, 17. Aug., 1958; a very poor gathering.

Without data: Torrend 10; immature.

17. P. roseum Berk. & Br. Jour. Linn. Soc. 14: 84. 1873. Known world distribution: North America, Africa, Oceanica, Asia. Sancho woods, Recife, on dead leaf, Farr 1801, 4. June, 1958; the walls of the sporangia thicken to form Craterium-like bases, but the stalks, though thick, are non-calcareous, and there are no columellae; hence the specimen does not fit in any species of Craterium, and is placed here; Instituto de Micologia garden, Recife, on ?Poinciana bark in moist chamber, Farr 1836, 4. July, 1958; a fine collection of sporangia developed from a red plasmodium, and fruiting on glass and filter paper among sporangia, of Clastoderma debaryanum Blytt. (Farr 1837) and in the same moist chamber culture as Stemonitis nigrescens Rex (Farr 1798).

18. P. serpula Morgan, Jour. Cinc. Soc. Nat. Hist. 19: 29. 1896. Known world distribution: North America, Hawaii, Japan. Instituto de Micologia garden, Recife, on bark

of living Polyscias guilfoylei Ball. hedge in shade, Farr 1830, 25.June, 1958; at the time of collection, the capillitium and peridium were definitely yellow (a similar specimen collected in Jamaica faded to whitish within a few months); spores strongly spinulose.

19. P. stellatum (Mass). Mart., Mycologia 39: 461. 1947. Known world distribution: North & South America, Africa, Asia. U.S.A.: Iowa City, Iowa, Martin s.n.

20. P. straminipes Lister, Jour. Bot. 36. 163. 1898. Known world distribution: North America, New Zealand, Europe. Without data: G. Lister s.n. (Torrend herb. 241).

21. P. tenerum Rex, Proc. Acad. Phila. 1890: 192. 1890. Known world distribution: Cosmopolitan. Macaxeira forest, Recife, on bark of decaying log, Farr 1773, 30.May. 1958.

22. P. virescens Ditmar in Sturm, Deuts. Fl. Pilze 1: 123. 1817. Known world distribution: North America, Europe, Java, Japan. Without data: Torrend s.n. (5 immature specimens).

23. P. viride (Bull.) Pers. Ann. Bot. usteri 15: 6. 1795. Known world distribution: Cosmopolitan. Casa Amarela, Recife, on indet.

tree, Vital s.n., 17. June, 1955, fide A. C. Batista & A.F. Vital; Dois Irmãos, Recife, on bark of decaying log, Farr 1769, 28. May, 1958; woods near Vitoria de Santo Antão, alt. c. 300 ft., on decaying log, Farr 1819, 11. June, 1958.

DIDERMA Pers. Neues Mag. Bot. 1. 89. 1794.

1. D. effusum (Schw.) Morgan, Jour. Cinc. Soc. Nat. Hist. 16: 155. 1894. Known world distribution: Cosmopolitan.
   U.S.A.: Iowa, Macbride s.n.
2. D. hemisphaericum (Bull.) Hornem. Fl. Dan. 33. 13. 1829. Known world distribution: Cosmopolitan. Boa Vista, Recife, on dead leaves, Farr 1856, 24. Aug., 1958.
3. D. spumarioides (Fr.) Fr. Syst. Myc. 3.104. 1829. Known world distribution: Cosmopolitan.
   U.S.A.: Crittenden, Kentucky, on leaves, Lloyd 50329, (as D. globosum); sporangial walls not strongly separated; spores 8-9 u, weakly spinulose.
4. D. testaceum (Schrad.) Pers. Syn. Fung. 167. 1801. Known world distribution: North America, Europe, Ceylon, Japan.
   U.S.A.: Iowa City, Iowa, Martin s.n., 25.

Aug., 1938.

DIDYMIUM Schrad. Nov. Gen. Pl. 20. 1797.

1. D.clavum (Alb. & Schw.) Rab.Deuts. Krypt. Fl. 1: 280. 1844. Known world distribution: Cosmopolitan. Sancho woods, Recife on dead bark, Farr 1806, 4.June, 1958; capillitium with bead-like thickenings; and on dead leaf, Farr 1809.
2. D.difforme (Pers.) S.G. Gray, Nat. Arr. Brit. Pl. 1: 571. 1821. Known world distribution: North & South America, Europe, Japan. Dois Irmãos, Recife, on Carica papaya L., Gayão s.n., 20. July, 1951, fide A.C.Batista; Boa Vista, Recife, on dead bark, Farr 1852 & 1853, 24. Aug., 1958. Ireland: Torrend s.n.
3. D.iridis (Ditm.) Fr., Syst.Myc. 3: 120. 1829. Known world distribution: Cosmopolitan. Dois Irmãos, Recife, on Carica papaya L., Batista s.n., 6. June, 1950, det. M. L.Farr; E. S. A. P., Recife, on Solanum melongena L., Gayão s.n., 4. Sept., 1951, & on "Serrapilheira", Gayão s.n., det. M. L.Farr; Boa Vista, Recife, on rotten log, Farr 1848, 17. Aug. 1958; spores densely verrucose and on dead leaves, Farr 1855,

24. Aug., 1958.

4. D.leoninum Berk. & Br. in jour. Linn. Soc. 14: 83. 1873. Known world distribution: Ceylon, Singapore, Java, Japan.
Ceylon: Petch s.n. (Torrend herb.), 1907.

5. D.melanospermum (Pers.) Macbr. N. Am. Slime-Moulds 88. 1899. Known world distribution: Cosmopolitan.
Germany: Stradtroda, Weihertal, Johannes s.n., 31. July, 1940.
Portugal: S.Fiel, Torrend 155, 1904.

6. ?D.minus (Lister) Morg., Jour. Cinc. Soc. Nat. Hist. 16: 145.1894, Known world distribution: Cosmopolitan. Boa Vista,Recife, on dead bark, Farr 1851, 24.Aug.,1958. Determination doubtful, because the specimen is a slightly aberrant development.

7. D.nigripes (Link) Fr., Syst. Myc. 3: 119. 1829. Known world distribution: Cosmopolitan. Dois Irmãos, Recife, on Carica papaya L., Gayão s.n., 4. Aug. 1951 (a very fine collection) and 1. Oct., 1951, fide A,C.Batista.

8. D.vaccinum (Dur. & Mont.) Buch.; Buch., Cherm. & Evrard, Bull. Soc. Myc. Fr. 36: 110. 1920. Known world distribution: North America, Europe, Africa, Japan.
Portugal: Val de Rosal, Torrend 148, Mar.

1908.

LEPIDODERMA De Bary; Rost. Versuch 13. 1873.
1. L.chailletii Rost. Mong. 189, 1874. Known world distribution: North America, Europe. England: Devonshire, Montagne s.n.(Torrend herb. 162); a very poor specimen consisting only of sporangial bases and columellae.

MUCILAGO Micheli; Batt. Fung. Hist. 76.1755.
1. M.spongiosa (Leyss.) Morg., Bot. Gaz. 24: 56. 1897. Known world distribution: Cosmopolitan.
Portugal: Alfeite, Torrend 146, Nov.,1907.
U.S.A.: Itasca State Park, Minnesota, Gardner s.n., 23: Aug., 1946, fide G. W. Martin.

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TABLE 1. MYXOMYCETES REPORTED FROM BRAZIL TO DATE

-New record for Brazil
--New record for South America
+Cosmopolitan

--Alwisia bombarda
--Arcyria carnea (?)
+A. cinerea
A. corymbosa
+A. denudata
A. globosa
+A. incarnata
+A. insignis
A. oerstedtii
A. pomiformis
A. versicolor
-+Badhamia affinis
B. papaveracea
+Ceratiomyxa fruticulosa
Clastoderma debaryanum
Comatricha longa
+C. nigra
-C. pulchella
C. suksdorfii
C. tenerrima
+C. typhoides
+Craterium leucocephalum
C. paraguayense
Cribraria argillacea
--C. aurantiaca
+C. intricata
--C. languescens

--C.microcarpa
--C.minutissima
-C.splendens
C.tenella
-+C.violacea
+Diachea leucopodia
+Dictydiaethalium plumbeum
+Dictydium cancellatum
+Diderma effusum
+D.hemisphericum
D.simplex
+D.spumarioides
+Didymium clavum
-D.difforme
D.intermedium
+D.iridis
D.megalosporum
+D.melanospermum
+D.minus
+D.nigripes
+D.squamulosum
-Echinostelium minutum
+-Fuligo cinerea
+F.septica
Hemitrichia clavata
+H.serpula
+H.stipitata
+H.vesparium
+Lamproderma arcyrionema
-L.sauteri
-L.scintillans
Lycogala conicum
+L.epidendrum
-+L.exiguum (?)
+Perichaena chrysosperma
-+P.corticalis
+P.depressa
P.microspora Penz.& List.
+Physarella oblonga
--Physarum auriscalpium
P.bethelii
+P.bivalve
P.bogoriense
+P.cinereum
+P.citrinum
+P.compressum

+P.didermoides
P.flavicomum
P.galbeum
P.gyrosum
P.lateritium
--P.leucophaeum
+P.melleum
P.nicaraguense
P.notabile
--P.nucleatum
+P.nutans
P.oblatum
P.pezizoideum
+P.polycephalum
+P.pusillum
--P.roseum
--P.serpula
P.stellatum
+P.tenerum
P.virescens
+P.viride
+Stemonitis axifera
S.brasiliensis
--S.flavogenita
+S.fusca
S.herbatica
S.nigrescens
S.smithii
+S.splendens
Trichia botrytis
T.favoginea
+T.pusilla
T.verrucosa
-+Tubifera ferruginosa
T.microsperma

BIBLIOGRAPHY

Farr, M.L. 1957. A Checklist of Jamaican Slime-Moulds (Myxomycetes). Inst. Jamaica Bull. Sci. Ser. Nº 7. 67 pp. 4 Figs., 1 map.

_____ and G.W. Martin. 1958. Two New Myxomycetes from Brazil. Broteria 27 (4): 153-158.

Fries, R.E. 1903. Myxomycetes von Argentinien & Bolivia. Ark. Bot. 1. 57-70.

Gilbert, F.A. 1928. Myxomycetes from British Guiana and Surinam. Mycologia 20: 27-28.

Hennings, P. 1896. Beitraege zur Pilzflora Suedamerikas. I. Hedwigia 35. 202-262.

_____ 1902. Fungi Paraenses II. Hedwigia 41. Beiblatt Nº 1, pp. 15-18.

Hoehnel, Franz v. 1907. Ergebnisse d. Bot. Exped. d. Kais. Akad. d. Wiss. Nach. Suedbrasilien 1901. 2: Thallophyta & Bryophyta. Eumycetes & Myxomycetes. Denkschr. d. mathemnaturw. Klasse d. Kais. Akad.d.Wiss. Wien, 83. 45 pp., 1 tab.

Jahn, E. 1902. Myxomycetenstudien. 2. Arten aus Blumenau (Brasilien). Ber.Deutsch Bot. Ges. 20: 268-280. pl. 13.

_____ 1904. Myxomyceten aus Amazonas.

Hedwigia 43: 300-305.

Lister, A. 1925. A. Monograph of the Mycetozoa. ed 3 (rev. by Gulielma Lister) i-xxxii, 296 pp., 60 figs., 222 pl. (many in color).

Martin, G.W. 1949. Fungi: Myxomycetes. North Amer. Flora 1 (1): 1-190. (including bibliography by Harold W. Rickett.)

Muenscher, W.C. 1930. Myxomycetes. In Chardon, C.E. & R.A. Toro, Mycological Explorations of Colombia. Jour. Dept. Agr. Porto Rico 14: 195-369.

_____ 1934. Myxomycetes. in Chardon, C.E. & R.A. Toro, Mycological Explorations of Venezuela. Univ. Puerto Rico Mon., Ser. B, nº 2, 353 pp. 33 pl., 1 map.

Patouillard, N. & A.Gaillard. 1888. Champignons du Venézuéla et du Haut-Orénoque. Bull.Soc.Mycol. Fr. 4: 94-129.

_____ & N.G. de Legerheim.1892. Champignons de l'Equateur. (Pug.II) Bull. Soc. Mycol. Fr. 8: 113-140.

_____ 1893. Champignons de l'Equateur. (Pug.III) Bull. Soc. Mycol. Fr. 9: 124. 165.

_____ 1895. Champignons de l'Equateur. (Pug. V) Bull. Soc. Mycol.

Fr. 11: 205-234.

Spegazzini, G. 1881. Fungi Argentini additis nonnullis brasiliensibus montevideensibusque. Anal. Soc. Cien. Argentina 12: 254-258.

_____ 1886. Fungi Guaranitici. Pug. I. Myxomycetes. An. Soc. Cien. Argentina 22:186-188.

_____ 1888. Fungi Guaranitici. Pug. II. Myxomycetes. An. Soc. Cien. Argentina 26: 59-60.

_____ 1889. Fungi Puiggariani. Pub. I. Myxomycetes. Bol. Acad. Nac. Cien. Córdoba 11: 474-477.

Spegazzini, C. 1909. Mycetes Argentinenses (Series IV): Myxomycetes. Anal. Mus. Nac. Bs. As., Ser. 3a, 12: 257-258. Oct., 11, 1909.

Stevenson, J.A. & Martin Gardenas.1949. Lista preliminar de los Hongos de Bolivia. Lilloa 21: 77-134.

Sturgis, W.C. 1916. Myxomycetes from South America. Mycologia 8: 34-41.

Sydow, H. & P. 1907. Verzeichnis der von Herrn F. Noack in Brasilien gesammelten Pilze. Ann. Myc. 5: 348-363.

Torrend, C. 1915. Les Myxomycètes du Brésil,

connus jusqu'ici. Brotéria, Ser. Bot., Fasc. 11, 72-88.

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